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ABSTRACT

Results emanating from smoking cessation programs suggest the necessity for a greater commitment to research for primary smoking prevention. Because of the early onset of smoking, more research must focus on adolescents and preadolescents who have not yet begun to smoke regularly. Three areas of concentrated study are proposed: (1) the initiation process rather than smoking maintenance; (2) concentration on younger populations rather than adults; and (3) the study of the onset of smoking prospectively rather than retrospectively. Two comprehensive social psychological models, chosen as most relevant for adolescent cigarette smokers, were used with junior and senior high school youth. Preliminary results indicated that nonsmoking subjects perceived nonsmokers as having more positive traits than smokers. Nonsmokers perceived more personal than situational control of their own nonsmoking behavior, and, in general, adolescents were perceived as being under strong situational control. (Author/BMW)

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Social Psychological Factors in Adolescent Cigarette Smoking

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Gene Levitt has just called for a greater commitment to smoking prevention programs. We agree that such a commitment is necessary. The poor results of smoking cessation programs suggest that we should shift the focus of smoking research to primary prevention. An effective prevention program must begin with an understanding of the primary transition from nonsmoker to smoker. Because of the early onset of smoking, research must focus on a target population of adolescents and preadolescents who have not begun to smoke regularly. Evans et al (1978) reported that 31% of the seventh graders in their sample had smoked at least one cigarette within the previous month. Similarly, the National Cancer Institute's 1975 report found that 60% of teenager girl smokers began smoking before age 13.

In order to establish and implement primary prevention, we must first have a clear understanding of the psychological processes involved in the onset of smoking. To achieve that understanding, three things are necessary. We must study the initiation process directly rather than focus on smoking maintenance; we must concentrate on younger populations rather than adults; and we must study the onset of smoking prospectively rather than retrospectively.

First, the processes involved in smoking initiation are distinct from those involved in maintenance. Once people begin to smoke, many factors serve to maintain the behavior even though those factors didn't enter into the original decision to smoke. For example, personality factors have not been found to be important in smoking initiation, but do predict amount smoked among smokers (Williams, 1971). Thus, cross-sectional research comparing smokers and nonsmokers may be useful in identifying maintenance factors but may not tell us much about why people start to smoke.

Second, in order to understand why adolescents begin to smoke, we must study adolescent populations directly rather than attempting to generalize from information about adults. Research suggests that adolescent smoking is a phenomenon distinct from adult smoking and that there are different influences. For example, perceived health consequences, which may be important for adult smoking, are not seen as personally relevant by adolescents.

Third, it is important to study the process of beginning to smoke prospectively in a longitudinal design rather than retrospectively or by cross-sectional designs. Such an approach allows us to avoid distortions in retrospective data and to achieve firmer causal inference. Also, by studying adolescents before they smoke, it may be possible to identify particular factors which pinpoint a "high risk" group and to identify barrier factors which prevent such "high risk" individuals from actually starting to smoke.

Given these considerations, we are just beginning an extensive four year longitudinal study of junior high school and high school students using a time sequential design. At the present, we are a little long on ideas and short on data. Today we want to outline several important aspects of our conceptual framework and make reference to pilot data collected with college students.

In our work, we rely on a cognitive social psychology framework. This approach emphasizes the importance of personal beliefs and of the substantive inferences and generalizations that people derive from their experiences. It is this "world as perceived" that provides the most proximal determinants of behavior. The similarity between this approach and that presented a few minutes ago by Alan Marlatt should be evident. In particular, we have chosen two comprehensive social psychological models as most relevant for adolescent cigarette smoking.

Ajzen and Fishbein's (1970) model can be used to predict adolescent intentions to smoke (which in turn mediate actual smoking). The basic model predicts behavioral intentions from two components: Attitudinal and Normative. The attitudinal component consists of a person's beliefs about the consequences of the specific behavior (e.g. smoking causes me to relax) and his evaluation of those consequences (e.g. being relaxed is good). The normative component consists of beliefs concerning how significant others feel about the behavior, along with one's motivation to comply with those expectations. The personal relevance of all beliefs is stressed in our work.

Aside from simply assessing the predictiveness of the model and the weights of the components, we propose that it is important to specify the factors that determine those weights. To the extent that the weight of the attitudinal component is high, there will be stronger attitude-behavior consistency. That is, cigarette smoking will be more predictable from attitudes toward smoking. Past research has indicated several factors that are important in determining attitude-behavior consistency. Adolescents who have had more concrete and direct experiences with cigarette smokers and with the effects of smoking, and adolescents who have a high degree of correspondence between the cognitive and affective components of their attitudes to smoking should show strong attitude-behavior consistency (a high weight to the Ajzen and Fishbein attitudinal component). It will be extremely important to identify different subgroups of adolescents who have different weights of the attitude and normative components. From a prevention point of view, persuasive messages aimed at attitudes will be effective only for those whose intentions are best predicted from the attitude component. On the other hand, messages aimed at normative beliefs will work best for a group whose intentions are best predicted by that component. Our longitudinal approach will

also allow us to see changes in weights over time and the factors that might cause such changes.

The second major approach in our study is Jessor and Jessor's "Problem Behavior Theory". While Ajzen and Fishbein use beliefs about a specific behavior to predict intentions about that behavior, Jessor and Jessor (1977) use more generalized factors from personality and the perceived environment. They view most adolescent problem behaviors as being age-graded. That is, problem behaviors are behaviors which are acceptable for adults but not for younger children. Problem behaviors represent premature transitions in age-graded status. In a longitudinal context, the model identifies "transition proneness," attempting to determine which particular adolescents are "at risk" to engage in a problem behavior in, say, the next year. This model has been successful in predicting the beginning of marijuana usage, alcohol usage, and sexual intercourse in adolescence (Jessor and Jessor, 1977).

Following this line of reasoning, it might be profitable to view cigarette smoking as another example of age-graded problem behavior. Adolescent cigarette smokers might well admire "adult" behaviors and adopt them at an inappropriately early age. This notion is entirely consistent with the finding that adolescent smokers view themselves and their "ideal" as being "precocious" or "interested in being grown up" (McKennel and Bynner, 1969).

Within our longitudinal study we will use both the Ajzen and Fishbein and the Jessor and Jessor models to attempt to account for the initiation of smoking behavior in young adolescents. We will be able to contrast the predictive power of the two approaches. Schlegel and DiTecco (1978) contrasted these two models applied to marijuana use in high school students. They found that the Ajzen and Fishbein model predicted the early stages of marijuana usage, but the Jessor and Jessor measures were better for predicting

advanced usage of marijuana (amount consumed among regular users). This finding highlights the need to consider onset and maintenance as distinct processes. The Schlegel and DiTecco study also provides a good example of how a multi-pronged conceptual attack can yield far richer data than just testing one model. It may well prove that both models are important, and that each will contribute to understanding aspects and stages of adolescent smoking.

In addition to these general models, we can analyze adolescent smoking in terms of certain derivations from attribution theory. The assumption of many approaches (Ajzen and Fishbein, and Jessor and Jessor included) is that the perception of smoking consequences is critical to an understanding of smoking initiation. It now appears that perception of the causes of smoking or nonsmoking may be even more important. Marlatt's work on alcohol consumption shows the importance of situational versus dispositional attributions for relapse. Those who attribute their initial relapse to situational factors are less likely to continue on the road to total relapse. In the same way, whether one's own smoking or nonsmoking behavior is perceived as situationally or dispositionally determined may be extremely important in the likelihood of changing smoking status. Adolescent nonsmokers who view their nonsmoking as due to situational factors should be more likely to become smokers than those who view their nonsmoking as based on their personalities and values. For example, consider two groups of nonsmokers. Group A claims not to smoke for dispositional reasons ("I hate the smell of smoke." "I don't like it when smoke lingers on my clothes or in my hair."). Group B adolescents explain their nonsmoking in situational terms ("I don't have enough money." "My parents would kill me." "My friends wouldn't hang around with me."). Now consider subsequent pressures and changes which might

be forthcoming. As kids get more money, and parents back off, and more friends start to smoke, group B adolescents would be much more likely to make the transition to smokers. In support of this notion, our preliminary data indicated that nonsmokers who saw situational control of their behavior stated higher likelihoods of becoming smokers in the future. It is also possible to change attributions of causality with predictable effects. Working in the area of energy conservation Salancik (1975) manipulated people's attributions for their prior energy conserving behavior. Those who were led to make situational attributions were less likely to continue to conserve energy than were those who were induced to make dispositional attributions. In the same way, changes in the attributions of causality made by nonsmokers and smokers are likely to affect their subsequent smoking statuses.

A final consideration is the adolescent's perceived freedom of action as a determinant of his/her smoking decisions (Brehm, 1966). If adolescent nonsmokers feel constrained to be nonsmokers ("My parents will kill me," etc), they may experience reactance and attempt to reinstate their freedom by starting to smoke. This notion is certainly compatible with studies that find rebelliousness and striving for independence to be related to adolescent smoking (Stewart & Livson, 1966; Clausen, 1968). Alternatively, however, if adolescent nonsmokers see smoking as an uncontrollable behavior, then they themselves should be less likely to start to smoke. It is possible that many adolescents overestimate the degree to which smokers can stop or start "at will". In fact, ironically, efforts to encourage smokers to try to kick their habits may unwittingly contribute to adolescent misperceptions concerning the ease of quitting.

Finally, smokers who view their smoking as uncontrollable may be more likely to use outside help to try to quit whereas those who view their smoking

as controllable may not try to quit since they can "stop any time" (Eiser & Sutton, 1977). Our pilot data indicated that young smokers who see their smoking as uncontrollable differ in interesting ways both from smokers who feel they have control and from nonsmokers. Both nonsmokers and smokers who felt in control, had behavioral intentions that were predictable from their attitudes about smoking. However, smokers who perceived their smoking as not controllable had behavioral intentions that weren't predictable from their attitudes. This suggests that persuasive messages aimed at attitude change would not be effective in altering smoking behavior for this group.

The theoretical models described above were used in pilot research with college students with the goal of developing and refining measurement instruments. The results, while preliminary in nature, indicate the promise of our approach. Here is a summary of the most interesting of those results.

1. Nonsmoking subjects perceived nonsmokers as having more positive traits than smokers (e.g. good, brave, mature, healthy, happy). Female smokers shared these perceptions, viewing nonsmokers as more positive than smokers. On the contrary, male smokers perceived smokers and nonsmokers as equally positive. This sex difference suggests that female smoking is not being maintained by perceived gains in self-image since female smokers do not see smokers as attractive people.

2. In terms of the Ajzen and Fishbein model, a variety of behavioral intentions were quite predictable for smokers. Multiple r's were in the range of .4 to .6. The attitude component had the majority of weight. However, only the indirect belief evaluation measure of the attitude component (Aact) was effective as a predictor. The direct semantic differential measure of Aact did not predict intentions well. The normative belief component did not carry much weight in prediction. Interestingly, intentions of nonsmokers

were not predictable from the Ajzen and Fishbein components (multiple r's ranged from .1 to .3).

3. Jessor and Jessor variables did not predict the intentions of smokers but did a reasonable job of predicting nonsmokers' intentions. When items dealing with perceived control and health were added, all multiple regressions for nonsmokers became significant.

4. Smokers and nonsmokers differed markedly in their perceptions of the situational vs. dispositional control of smoking and nonsmoking. First of all, nonsmokers perceived more personal than situational control of their own nonsmoking behavior. Smokers, however, saw their smoking as under more situational control. There were also differences in the perceptions of what controlled the smoking and nonsmoking behavior of targets of different ages. In general, adolescents were perceived as being under strong situational control.

It should be remembered that these results are preliminary in nature since the measurement instruments were not fully developed at the time of the pilot study. However, these results show the promise of the models, factors and processes which we intend to study in more depth. They indicate that the psychological processes underlying adolescent smoking initiation can be understood in terms of a cognitive social psychological approach. Once we are able to clarify these processes, and identify the adolescents who are at risk to become smokers, primary prevention programs can be aimed at the particular factors that are most important to the smoking decisions of these "high risk" adolescents.

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